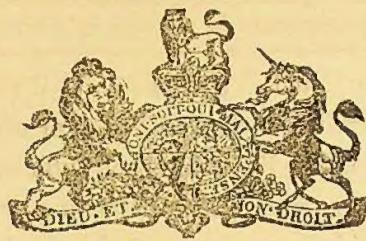


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RECORDED

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A.D. 1862, 10th MARCH. N° 638.

Vinegar.

(This Invention received Provisional Protection only.)

PROVISIONAL SPECIFICATION left by James Duncan at the Office of the Commissioners of Patents, with his Petition, on the 10th March 1862.

I, JAMES DUNCAN, of Greenock, in the County of Renfrew, North Britain, 5 Sugar Refiner, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN THE MANUFACTURE OF VINEGAR," to be as follows, that is to say:—

This Invention relates to certain improvements in the manufacture of vinegar.

10 For this purpose weak saccharine liquors consisting of what are known as charcoal washings or charwashings, steamings of casks, bag filter washings, and the sweet waters of sugar refiners are used. These are mixed together so as to form saccharine solutions of not higher specific gravity than about 30° Beaumé. As these solutions are almost invariably acid they are neutralised 15 or even rendered slightly alkaline by adding to them a suitable quantity of caustic lime, slaked lime, or carbonate of lime in a state of minute division. Baryta, stiontia, whether caustic, slaked, or in the state of carbonate, may also be employed, though preference is given to the lime, its hydrate or carbonate. These neutralised or alkaline saccharine solutions are then introduced into 20 suitable fermenting tuns, where they are mixed with a suitable quantity of ordinary yeast and sometimes with a suitable quantity of German yeast in the state of cream. The solutions are kept at a suitable temperature till the

Duncan's Improvements in the Manufacture of Vinegar.

vinous fermentation is completed. In some cases it may be convenient to add to the yeast a suitable quantity of wheaten barley or other similar flour or other nitrogenous matter. When the liquid has been sufficiently fermented it may be racked off from the sediment into spacious ripening or acidifying casks, where it is maintained at a suitable temperature, and is freely exposed to the air by 5 the well-known arrangements used in ordinary vinegar manufacture. When the acetic fermentation has been completed, any lime, baryta or stiontia, which is contained in these liquors is precipitated by adding the requisite amount of sulphuric or oxalic acid, great care being taken to avoid adding any excess. The liquors are then either at once filtered or allowed to stand till the 10 whole of the sediment has been deposited, when the fine vinegar may be drawn off.

LONDON :

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Printers to the Queen's most Excellent Majesty. 1862.